Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet | 1 | of | 5

Complete if Known	
Application Number	10/696,528
Filing Date	28 October 2003
First Named Inventor	Ulrich VOLLATH
Art Unit	2655
Examiner Name	
Attorney Docket Number	A-1403

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.¹	Document Number Number-Kind Code² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
FHM		US 5,519,620	05-21-1996	Talbot et al.	
FHM		US 5,602,741	02-11-1997	Talbot et al.	
FHM		US 5,757,646	05-26-1998	Talbot et al.	
FHM		US 5,890,091	03-30-1999	Talbot et al.	
FHM		US 5,828,336	10-27-1998	Yunck et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.¹	Foreign Patent Document Country Code³ Number⁴ Kind Code⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T⁶

Examiner Signature	FHM	Date Considered	3-7-2007

Substitute for form 1449/PTO	Complete If Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*	Application Number	10/696,528
	Filing Date	28 October 2003
	First Named Inventor	Ulrich VOLLATH
	Art Unit	2655
	Examiner Name	
Sheet	2	of	5	Attorney Docket Number	A-1403

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
FHM		G. Bierman, Factorization Methods for Discrete Sequential Estimation, Academic Press, 1977 (pages 1-241)	
FHM		N. Carlson, Federated Square Root Filter for Decentralized Parallel Processing, IEEE Transactions on Aerospace and Electronic Systems, Vol.AES-26, No.3, May 1990, pp. 517-525	
FHM		S. Cliatt, GPS Modernization, Proceedings of the GNSS 2003, April 22-25 2003, Graz Austria (15 pages)	
FHM		K. de Jong, Integrated GPS/Galileo ambiguity resolution, Proceedings of NaviTec 2001, 1st ESA workshop on satellite navigation user equipment technologies, December 2001, pp. 318-325 (8 pages)	
FHM		K. de Jong, Future GPS and Galileo signals, Geo-Informatics, September 2002, 2 pp.	
FHM		P. de Jonge, The LAMBDA method for integer ambiguity estimation: implementation aspects, LGR-Series No. 12, Delft Geodetic Computing Center, Delft University of Technology, The Netherlands, August 1996, 49 pp.	
FHM		P. de Jonge, Computational aspects of the LAMBDA method for GPS ambiguity resolution, Proceedings ION GPS-96, 9th International Technical Meeting of the Satellite Division of the Institute of Navigation, Kansas City, Missouri, Sept. 17-20, pp. 935-944	
FHM		H.-J. Euler et al., Fast GPS ambiguity resolution on-the-fly for real-time applications, Proceedings of Sixth International Geodetic Symposium on Satellite Positioning, Columbus, OH, March 17-20, pp. 650-659	
FHM		A. Gelb (ed.), Applied Optimal Estimation, The M.I.T. Press, 1992. pp. 107-113 and pp. 133-136	
FHM		E. Grafarend et al., Generating Classes of Equivalent Linear Models by Nuisance Parameter Elimination- Applications to GPS Observations, Manuscripta Geodetica 11 (1986), pp. 262-271	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO		Complete If Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*		Application Number	10/696,528
		Filing Date	28 October 2003
		First Named Inventor	Ulrich VOLLATH
		Art Unit	2655
		Examiner Name	
Sheet 3	of 5	Attorney Docket Number	A-1403

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
FHM		M. Grewal et al., Kalman filtering: theory and practice using MATLAB, second edition, 2001, John Wiley & Sons, New York (401 pages)	
FHM		R. Hatch, The synergism of GPS code and carrier phase ambiguities, Proceedings of the 3rd International Geodetic Symposium on Satellite Doppler Positioning, Las Cruces, New Mexico, February 1982, Vol. 2, pp 1213-1232	
FHM		R. Hatch, Ambiguity resolution in the fast lane. Proceedings of ION GPS-89, Colorado Springs, CO, September 27-29, pp. 45-50	
FHM		R. Hatch, Instantaneous ambiguity resolution, IAG Symposium No. 107 'Kinematic Systems in Geodesy, Surveying, and Remote Sensing', Banff, Canada, September 10-13 (KIS'90), Springer Verlag, pp. 299-308	
FHM		R. Hatch, Comparison of several AROF kinematic techniques, Proceedings of ION GPS-94, Salt Lake City, UT, September 20-23, pp. 363-370	
FHM		R. Hatch, The Promise of a Third Frequency, GPS World, May 1996, pp. 55-58	
FHM		R. Hatch, GPS Carrier-Phase Ambiguity Resolution, Institute for Mathematics and its Applications (IMA) "HOT TOPICS" Workshop: Mathematical Challenges in Global Positioning Systems (GPS), August 16-18, 2000, 57 pp.	
FHM		G. Hein et al., Galileo Frequency & Signal Design, GPS World, June 2003, pp. 30-37.	
FHM		B. Hofmann-Wellenhof et al., GPS Theory and Practice, Springer-Verlag, Fifth Edition, 2001, pp. 213-248	
FHM		P. Joosten et al., GNSS Three Carrier Phase Ambiguity Resolution using the LAMBDA-method, Proceedings of the GNSS 1999 (6 pages)	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*		Application Number	10/696,528
		Filing Date	28 October 2003
		First Named Inventor	Ulrich VOLLATH
		Art Unit	2655
		Examiner Name	
Sheet	4	of	5	Attorney Docket Number	A-1403

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
FHM		H. Landau et al., On-the-fly ambiguity resolution for precise differential positioning, Proceedings of ION GPS-92, Albuquerque, NM, September 16-18, pp. 607-613	
FHM		A. Leick, GPS Satellite Surveying, Second Edition, John Wiley & Sons, Inc., 1995 (560 pages)	
FHM		P. Misra et al., Global Positioning System: Signals, Measurements, and Performance, Ganja-Jamuna Press, 2001, Chapter 6, pp. 209-254	
FHM		D. Odijk, Triple-Frequency Ionosphere-Free Phase Combinations for Ambiguity Resolution, Proc. of the ENC-GNSS 2002 proceedings; The European Navigation Conference, Copenhagen, Denmark, 27-30 May 2002, 10 pp.	
FHM		L. Sjöberg, The best linear combinations of L1 and L2 frequency observables in the application of Transit/Doppler and GPS, Manuscripta Geodetica 15, 1990, pp. 17-22	
FHM		P. Teunissen, The least-squares ambiguity decorrelation adjustment: a method for fast GPS integer ambiguity estimation, Journal of Geodesy, 1-2, 1995, pp. 65-82	
FHM		P. Teunissen et al., Integer least-squares estimation of the GPS phase ambiguities,. Proceedings of International Symposium on Kinematic Systems in Geodesy, Geomatics and Navigation KIS'94, Banff, Canada, August 30 - September 2, Department of Geomatics Engineering, The University of Calgary, pp. 221-231	
FHM		P.G. Teunissen et al., Ambiguity dilution of precision: Definition, Properties and Application, Proceedings of the ION GPS-97, 16-19 September 1997, Kansas City, USA, pp. 891-899	
FHM		P. Teunissen, The GPS integer least-squares statistics, Phys. Chem. Earth, 25(A9-A11), 673-677	
FHM		P. Teunissen, Statistical GNSS Carrier Phase Ambiguity Resolution: A Review, IEEE Workshop on Statistical Signal Processing Proceedings 2001 (9 pages)	

Examiner Signature		Date Considered	

Substitute for form 1449/PTO	Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*	Application Number	10/696,528
	Filing Date	28 October 2003
	First Named Inventor	Ulrich VOLLATH
	Art Unit	2655
	Examiner Name	
Sheet 5 of 5	Attorney Docket Number	A-1403

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
FHM		P. Teunissen, The success rate and precision of GPS ambiguities, J. Geod., 74(3/4), 2000, pp. 321-326	
FHM		U. Vollath et al., Analysis of Three-Carrier Ambiguity Resolution (TCAR) Technique for Precise Relative Positioning in GNSS-2, Proceedings of the ION-GPS 1998, Nashville, September 15-18, The Institute of Navigation, Alexandria, VA, pp. 417-426	
FHM		U. Vollath et al., Ambiguity Resolution using Three Carriers, Performance Analysis using "Real" Data, Proceedings of the GNSS-2001 conference, Seville, May 2001, ___ pp.	
FHM		U. Vollath et al., Network RTK Versus Single Base RTK - Understanding the Error Characteristics, Proceedings of the GNSS-2002 Conference, May 2002, pp. 2774-2780	
		U. Vollath, Decentralized Floating Solution in Trimble Total Control 2.7, Trimble Terrasat GmbH Internal Report, Issue 1, Revision 1, unpublished (7 pages)	
FHM		J. Wang et al., A discrimination test procedure for ambiguity resolution on-the-fly, Journal of Geodesy (1998) 72, pp. 644-653	
FHM		"Trimble Total Control Software" Technical Notes, Product Brochure of Trimble Navigation Limited, 05/02 (8 pages)	

Examiner Signature		Date Considered	